

GEM MINE
Good Earth Minerals

Plan of Operations to mine gypsum in Blakes Lambing Grounds

Project Parameters

Project Location	Utah
Region	Remaining Counties
Distance to Support	16.0 miles
Distance to Dump Site	18.0 miles
Distance to Hazardous Waste Dump	300.0 miles
Special Rate Wage Adjustment	percent
Special Rate Burden Adjustment	percent
Post Closure Monitoring Period	24 months

Hourly Labor Costs (Wages plus Fringe Benefits)

Supervisors	\$39.11 /hour
Loader Operators	\$36.93 /hour
Scraper Operators	\$35.93 /hour
Bulldozer Operators	\$35.93 /hour
Backhoe Operators	\$36.93 /hour
Grader Operators	\$37.45 /hour
Haul Truck Drivers	\$29.16 /hour
Breaker Operators	\$33.06 /hour
Tractor Operators	\$33.06 /hour
Service Truck Drivers	\$26.99 /hour
Construction Workers	\$17.11 /hour
Mechanics	\$26.99 /hour
Demolition Laborers	\$26.15 /hour
Site Work Laborers	\$23.41 /hour

Supply Costs

Diesel Fuel	\$3.444 /gallon
Gasoline	\$2.993 /gallon
Electric Power	\$0.050 /kWh
Off-site Mainenance Labor	\$39.11 /hour

Evaluator: Project Evaluator
Thursday, May 19, 2011

Bureau of Land Management
Sherpa for Reclamation Bonds - Version 3.10

ESTIMATE BASED ON CURRENT PLAN DATA
R. SCHREINER

2010 small mine
state #5

7,300
4,300 x 12.3 = 52,890
60,190

5-10 for Biosolids
#2 & 1 ton

GEM MINE

Plan of Operations to mine gypsum in Blakes Lambing Grounds

Good Earth Minerals

Spread and Contour

Site Contouring

Spreader

In-place Density

Swell Factor

Loose Density

Bulldozer Blade Capacity

Bulldozer Availability

Bulldozer Blade Efficiency

Bulldozer Traction Efficiency

Dozing Distance

Dozing Gradient

Volume Spread

Bulldozer Speed - Dozing

Bulldozer Speed - Transport

Bulldozer Speed - Return

Total Cycle Time

Job Cost

Bulldozer # 1

4,500 pounds/cubic yard

65 percent

2,727 pounds/cubic yard

15.6 cubic yard

77.7 percent

95.0 percent

70.0 percent

600 feet

15.0 percent

1,000 cubic yards

2.40 miles per hour

4.30 miles per hour

5.30 miles per hour

5.89 minutes

\$2,757

Evaluator: Project Evaluator

Bureau of Land Management

Thursday, May 19, 2011

Sherpa for Reclamation Bonds - Version 3.10

GEM MINE
Good Earth Minerals

Plan of Operations to mine gypsum in Blakes Lambing Grounds

Top Soil Application

Spreader

In-place Density

Swell Factor

Loose Density

Bulldozer Blade Capacity

Bulldozer Availability

Bulldozer Blade Efficiency

Bulldozer Traction Efficiency

Dozing Distance

Dozing Gradient

Volume Spread

Bulldozer Speed - Dozing

Bulldozer Speed - Transport

Bulldozer Speed - Return

Total Cycle Time

Job Cost

Bulldozer # 1

2,100 pounds/cubic yard

30 percent

1,615 pounds/cubic yard

15.6 cubic yard

77.7 percent

95.0 percent

70.0 percent

1,200 feet

15.0 percent

6,000 cubic yards

2.40 miles per hour

4.30 miles per hour

5.30 miles per hour

11.80 minutes

\$33,115

Evaluator: Project Evaluator
Thursday, May 19, 2011

Bureau of Land Management
Sherpa for Reclamation Bonds - Version 3.10

GEM MINE
Good Earth Minerals
Seed

Plan of Operations to mine gypsum in Blakes Lambing Grounds

Seeding

Seed Variety
Application Method
Area
Application Rate

Arid Mix
Mechanical
13.30 acres
10.00 pounds/acre

Job Cost

\$6,977

Scarify

Scarifying

Surface Area
Average Side Slope
Number of Passes
Implement Width
Average Machine Speed

13.30 acres
15.0 percent
4 passes
12.0 feet
3.9 miles per hour

Job Cost

\$1,655

Evaluator: Project Evaluator
Thursday, May 19, 2011

Bureau of Land Management
Sherpa for Reclamation Bonds - Version 3.10

GEM MINE
Good Earth Minerals
Equipment Requirements
Crawler Tractor

Plan of Operations to mine gypsum in Blakes Lambing Grounds

75 horsepower

Evaluator: Project Evaluator
Thursday, May 19, 2011

Bureau of Land Management
Sherpa for Reclamation Bonds - Version 3.10

GEM MINE
Good Earth Minerals
Crew Requirements

Plan of Operations to mine gypsum in Blakes Lambing Grounds

Project Foremen	43.5 hours
Bulldozer Operators	241.9 hours
Seeder Operators	76.5 hours
Tractor Operators	16.4 hours
Laborers	16.4 hours

Evaluator: Project Evaluator
Thursday, May 19, 2011

Bureau of Land Management
Sherpa for Reclamation Bonds - Version 3.10

GEM MINE
Good Earth Minerals
Equipment Mobilization Costs

Plan of Operations to mine gypsum in Blakes Lambing Grounds

Total Mobilization Cost

\$341

\$341

Evaluator: Project Evaluator
Thursday, May 19, 2011

Bureau of Land Management
Sherpa for Reclamation Bonds - Version 3.10

GEM MINE
Good Earth Minerals
Project Job Costs

Plan of Operations to mine gypsum in Blakes Lambing Grounds

Site Contouring	\$2,757
Top Soil Application	\$33,115
Seeding	\$6,977
Scarifying	\$1,655
Equipment Mobilization	\$341
Total	\$44,845

Evaluator: Project Evaluator
Thursday, May 19, 2011

Bureau of Land Management
Sherpa for Reclamation Bonds - Version 3.10

GEM MINE
Good Earth Minerals

Plan of Operations to mine gypsum in Blakes Lambing Grounds

Administrative and Overhead Charges

Project Operation and Maintenance Costs		\$44,845
Project Contingency	7.00 percent	\$3,139
Contractor's Profit	10.00 percent	\$4,484
Liability Insurance	1.50 percent	\$216
Bond Premium	3.00 percent	
Engineering and Design	6.00 percent	\$2,691
Agency Indirect Costs	14.00 percent	\$6,278
Agency Contract Management	21.00 percent	\$1,318
Total Project Overhead Cost		\$18,127

Evaluator: Project Evaluator
Thursday, May 19, 2011

Bureau of Land Management
Sherpa for Reclamation Bonds - Version 3.10

GEM MINE
Good Earth Minerals

Plan of Operations to mine gypsum in Blakes Lambing Grounds

Bond Cost Estimate

Earth Moving	\$35,872
Site Work	\$1,655
Planting and Seeding	\$6,977
Closures	\$0
Demolition	\$0
Disposal	\$0
Monitoring	\$0
Mobilization	\$341
Administration	\$18,127
Required Bond Value	\$62,971

Evaluator: Project Evaluator
Thursday, May 19, 2011

Bureau of Land Management
Sherpa for Reclamation Bonds - Version 3.10